

The Hoodoo

National Park Service
U.S. Department of the Interior



Map, Shuttle & Hiking Guide

Summer 2012

Questions?
Bring this
newspaper
to the Visitor
Center!

Visitor Center Hours

Summer 8 a.m. – 8 p.m.

Fall/Spring 8 a.m.– 6 p.m.

Hoodoos on the Queens Garden Trail (Photo: Kevin Doxstater)

How to Make the Most of Your Time



Less Than 4 Hours

Visitor Center

Stop at the Visitor Center for information, museum exhibits, and a 22-minute award-winning orientation film, shown daily 8:00 a.m. to closing, on the hour and half hour.

Tour of the Overlooks

Between 8 am & 7 pm, ride the shuttle to Bryce, Inspiration, Sunset and Sunrise Points first. If you have more time, use your car to visit overlooks in the southern portion of the park.

Short Walk

Hike a short segment of the Rim Trail or select one of the hikes from the “Easy to Moderate” group in the hiking table on page 7.

More Than 4 Hours

Visitor Center, Shuttle/Auto Tour, Short Walk and Day Hike

Bryce is best experienced from its trails. Select one of the combination loops from the “Moderate” or “Strenuous” groups in the hiking table on page 7.

Ranger Program

Attend a free Ranger Program to learn more about the natural and cultural history of this region. Check at the Visitor Center for the current program schedule.

Horseback Ride

Take a horse ride into Bryce Canyon. Wranglers lead 2-hour and half-day rides daily. Inquire at Bryce Canyon Lodge.

Auto Tour

Where is the best overlook?

There are 14 viewpoints along Bryce Canyon’s 18-mile scenic drive (one-way distance) and everybody determines his or her favorite for a multitude of reasons. For every 15 minutes you extend your visit, you can see another overlook! If you stop at all the viewpoints, it could take as little as 3-4 hours.

Our most famous views are found in Bryce Amphitheater, including Sunrise, Sunset, Inspiration and Bryce points. The southern overlooks feature beautiful,

though smaller, amphitheaters and/or long-distance, panoramic views across the Grand Staircase-Escalante National Monument. From many of the park’s overlooks you can see over 100 miles (160 km) on a clear day!

Since all the viewpoints are on the left side of the road as you drive south towards Rainbow Point, we recommend stopping at the viewpoints as you drive north on your return trip. This way, each stop will be an easier and safer right turn.

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Safety at Bryce Canyon

How many people die at Bryce? Fortunately, Bryce averages less than 1 fatality per year. In order of decreasing abundance, fatalities are caused by:

- Heart attacks
- Falling off cliffs
- Lightning
- Vehicle accidents

Unfortunately, hundreds of serious injuries have also needlessly occurred, some out of ignorance, but too many from ignoring park safety warnings.

Top 10 Causes of Bryce Injuries

#10 Unsafe Driving

- Speeding (posted limits are 25 to 45 mph).
- Failure to wear seat belts.
- Passing on a double yellow line.
- Auto vs. animal. Watch for Wildlife!
- Rear-ending. Stop in pullouts, never in road.
- Not reducing speed on wet or icy roads.

#9 Climbing / Sliding down cliffs

The rock at Bryce forms crumbly cliffs and steep gravelly slopes. Hand and toe holds support nothing heavier than chipmunks. Climbing the rocks and sliding on the slopes is illegal and dangerous.

#8 Feeding Animals

Fed animals become aggressive. Even small animals can inflict bites requiring stitches and worse yet transmit disease. Watch wildlife from a distance and discourage animals that approach you.

#7 Ignoring Extreme Weather

At Bryce it is possible for the difference between the daily high and low to be as much as 50° F / 27° C! Lightning is a year-round danger -- especially during summer storms! Seek the shelter of a building or your vehicle whenever the "flash-bang interval" (time between lightning and thunder) is less than 30 seconds.

#6 Dehydration

Drink 1 quart / liter every 1-2 hours. A well hydrated body is better able to regulate body temperature and is more resistant to heat exhaustion. Sunburns also lead to dehydration. Wear a hat, sunscreen, and sunglasses to protect from the sun overhead and reflected UV light.

#5 Leaving the Trail

Stay on designated trails and away from cliff edges where footing can be tricky. Even on seemingly gentle slopes, it can be impossible to keep your footing. Bring the maps on page 6 and 7 to avoid getting lost.

#4 Over-exertion

Park elevations reach 9115 ft (2778 m) subjecting you to 70% of the oxygen you might be used to. Bryce's trails start at the top which means all returns will be uphill. Turn back BEFORE you become tired. Know and respect your own physical limitations.

#3, #2, & #1 Bad Choice of Footwear

Wear hiking boots with good ankle support and "lug" traction. Hiking without hiking boots is like SCUBA diving without an air tank. Sport-sandals & "trainers," are NOT safe hiking footwear.

Emergencies Call 911 or 435-676-2411

24-hours a day or contact a Park Ranger

Park Headquarters

435 834-5322

Fax 435 834-4703

Lost & Found: 435 834-4736

Mailing Address

PO Box 640201

Bryce, Utah 84764-0201

Web

Website: www.nps.gov/brca

Twitter: [brycecanyonNPS](https://twitter.com/brycecanyonNPS)

Facebook: facebook.com/BryceCanyonnps

National Park Service
U.S. Department of the Interior



Travelers Information Stations: Tune radio to 1590 and 1610 AM for park and shuttle information

Information and Services



Visitor Center

In summer, open daily 8:00 am - 8:00 pm. Information, museum, publications, an award-winning film, backcountry permits, and lost-and-found services are available here.

Emergencies

24-hour emergency response, call 911 or 435 676-2411. Garfield Hospital, 435 676-8811, and Clinic, 435 676-8842 are in Panguitch.



Accessibility

Restrooms: the Visitor Center, Sunset Point, Bryce Canyon Lodge, and General Store are fully accessible. Sunset Campground has two sites reserved for people with mobility impairments. The ½-mile section of Rim Trail between Sunset and Sunrise points is paved and mostly level. Inquire at the Visitor Center for information on accessible ranger-led programs, and to obtain an Access Guide.



Restrooms

Available year-round at the Visitor Center, North Campground and Sunset, Farview, and Rainbow points. Restrooms are also available April – October at Bryce Canyon Lodge, General Store, Sunset Campground, Inspiration Point and Peekaboo Loop.



Phones

Available year-round at the Visitor Center. Phones are also available April - October at Bryce Canyon Lodge, General Store, and Sunset Campground.



Pets

Pets must be leashed; you are required to clean up after your pet. Pets are permitted at park viewpoints, campgrounds, and on paved surfaces or paved trails. Pets are not permitted in buildings or on unpaved surfaces.



Horseback Riding

Wranglers lead 2-hour and 4-hour horse and mule rides Spring – October (weather and trail conditions permitting). For same-day reservations, inquire at Bryce Canyon Lodge or call 435 834-5500. For advance reservations: Canyon Trail Rides, P.O. Box 128, Tropic, UT 84776; 435 679-8665. Information: www.canyonrides.com.



Religious Services

Outside the park year-round, may be available in the park during summer months. For more information, inquire at the Visitor Center or the Bryce Canyon Lodge.



Entrance Fees

Private Vehicle: \$25 per vehicle, valid for 7 days in Bryce Canyon National Park.

Individual: \$12 per person (pedestrian, bicycle, motorcycle, and organized group), valid for 7 days in Bryce Canyon National Park.

Bryce Canyon Annual Pass: \$30, valid for one year from date of purchase at Bryce Canyon National Park only.

Commercial Tours: Ask for rates.

Interagency Annual Pass: \$80, valid for one year from date of purchase in all federal fee areas.

Interagency Senior Pass: \$10 lifetime pass for U.S. residents 62 or older.

Interagency Access Pass: Free lifetime pass for U.S. citizens who are permanently disabled.



Camping

North Campground: Open all year, 101 campsites (only one loop open in Winter). Available first-come, first-served Oct 1 – May 6. RV sites may be reserved May 4 – Sept 23 by calling 877 444-6777 or visit www.recreation.gov. Reservations can be made up to 240 days in advance.

Sunset Campground: Open late spring to early fall, 102 campsites. 20 tent sites are available for reservation up to 6 months in advance, all others first-come, first served.

Fees: Camping is \$15 a night per campsite (half price for Interagency Senior and Access pass holders).

Group Campsite: One site available by reservation only. Group size is limited to 7-30 people and 8 vehicles. Cost is \$55-\$100 per night, dependent upon group size. Campsite may be reserved by calling 877 444-6777 or online at www.recreation.gov.

Dump Station: No hookups are in the park, but a fee-for-use dump station is available in Summer near North Campground.

Other Campgrounds: For camping reservations in nearby National Parks, call 877 444-6777 or visit www.recreation.gov. Public campgrounds are available on US Forest Service, BLM, and Utah State Park lands nearby. Private campgrounds with showers and hookups are available outside the park.



Picnic Areas

Picnic areas are available year-round at Sunset Point, the General Store, Rainbow Point, and Mile 4.5 of the park road, and from April – October at the south end of North Campground. Water is available seasonally at all of the above locations except Mile 4.5 and Rainbow Point. Fire grates are available only at the North Campground Picnic Area.



Lodging

The Lodge at Bryce Canyon: Open March 31 - November 11, has cabins, motel rooms and suites, a restaurant, and gift shop. For lodging reservations, write to: The Lodge at Bryce Canyon, P.O. Box 640041, Bryce Utah 84764, call 877-386-4383; or visit brycecanyonforever.com.

Other Lodging: Available near the park entrance in Bryce Canyon City and in Tropic, Cannonville, Bryce Junction, and Panguitch.



Food Services

The Lodge at Bryce Canyon: Open March 31 - November 11. Dining room serves breakfast, lunch, and dinner. Valhalla Pizzeria is open late May to mid-October. The General Store, open April 1 to November 11, has groceries, quick meals, and camper supplies.

Other Food Services: Restaurants are available near the park entrance and in Tropic, Bryce Junction, and Panguitch.



Post Office / ATM / Internet

Ruby's Inn has a post office open Mon-Sat (Bryce, UT 84764), an ATM, and internet services. Personal mail addressed to park visitors will not be accepted at Bryce Canyon National Park.



Wireless Internet (WiFi)

Free wireless Internet access is available year-round at the Visitor Center or seasonally at the Bryce Canyon Lodge lobby (password required) and General Store front porch.



Showers & Laundry

Coin-operated shower and laundry facilities are available at the General Store, open April 1 - October 31, and outside the park at some nearby establishments.



Bicycles

Bicycles are restricted to paved roadways in the park. The nearby Dixie National Forest has a paved bicycle path through Red Canyon, and many miles of challenging and spectacular mountain bike trails. Grand Staircase-Escalante National Monument has countless miles of dirt roads suitable for mountain biking.




Recycling

Recycling bins are located at the entrance to Sunset & North Campgrounds, Sunset Point, Visitor Center, General Store and Bryce Canyon Lodge. Now accepting aluminum cans, plastic (#1-7), cardboard, tin, and glass. Receptacles for recycling small propane cylinders are available at North Campground, Sunset Campground, and the General Store.


Ranger-led Activities



Geology Talk 


Hoodoos, ancient lakes and something called frost wedging? Geologists have spent years studying the unique story of Bryce Canyon. Spend a half hour with a ranger as we discuss the current scientific explanation behind Bryce Canyon’s unique geologic history.
Sunset Point at 11:30 a.m. and 2:00 p.m.
Duration: 30 minutes



Rim Walk 

Great views, fascinating plant and wildlife stories, a touch of geology, a smattering of cultural history – what more could you want? Join a park ranger for an overview of Bryce Canyon as you stroll along the rim of the Bryce Amphitheater. Daily in the late afternoon June – September, check at the Visitor for start times.
Length: 1 mile, Duration: 1.5 hours



Evening Program 

Bryce Canyon’s diversity comes to life during ranger programs at the Bryce Canyon Lodge or Visitor Center auditoriums. In addition, programs are occasionally offered at the North Campground Amphitheater. Auditoriums are wheelchair accessible, the North Campground facility is not.
Duration: 1 hour



Canyon Hike (June – August)

Join a park ranger for a hike down into the heart of the Bryce Amphitheater. Enjoy face to face encounters with hoodoos. Immerse yourself in a labyrinth of breathtaking views and engaging stories about all that surrounds you.
Length: 1.5 to 2 miles
Duration: 2 to 2.5 hours



Astronomy Programs 

Join Dark Rangers, Volunteers, and NASA Solar System Ambassador Patrick Wiggins, to learn about the heavens, and view Bryce’s night skies through telescopes (weather permitting). Offered most Tuesdays, Thursdays, and Saturdays. Ask at the Visitor Center or look on page 10 for schedules.
Duration: 2 hours




Full Moon Hike

Group size is limited to 30 people; *get your first-come first-served tickets at the Visitor Center the morning of the hike*. Not for children under age 6. Offered two nights each month during the full moon. **HIKING BOOTS ARE REQUIRED**. Check page 10 for schedule.
Length: 1.5 to 2 miles
Duration: 2 to 2.5 hours



Kids Programs (June – August)

While most of Bryce Canyon’s ranger programs are family friendly, some may be too technical for younger children. However, these in particular are fun for kids and parents alike. Rangers present a wide range of programs appealing to a variety of interests. Most Kids Programs require reservations, inquire at the Visitor Center.
Duration: 1 hour



Become a Junior Ranger!

Attending a ranger program is the #1 requirement toward completion of your Junior Ranger workbook. Ask how you can become a Bryce Canyon Junior Ranger at the Visitor Center and, while your are there, check the schedule of upcoming ranger programs.

Hike the Hoodoos!

Coming this summer (inquire at Visitor Center for availability date), take a hike with this fun addition to Bryce Canyon's Junior Ranger program (though everyone is welcome to participate)! Hike a trail and look for benchmark survey markers like the one pictured at far right, take a rubbing of the benchmark to show you hiked to it, and earn a special reward. If you do not have a Junior Ranger Booklet or a piece of paper and pencil, have someone take a picture of you with the benchmark(s).

To earn your special reward, *either* find three "*Hike the Hoodoos!*" benchmarks, *or* hike at least 3 miles (4.8 km) on trails that have benchmarks. The chart to the right shows the hikes that feature benchmarks. All distances shown are for a round-trip journey. Except for Tower Bridge and Sheep Creek, you will need to take more than one of the hikes listed to earn the reward. One possible route is the famous Queens/Navajo Combination Loop – a 3-mile hike that includes two benchmarks along the way. Detailed hiking information may be found on page 7 of this newspaper. For information on the health benefits of hiking (and other activities), see the *Let's Move Outside* article on page 11.

The "Hike the Hoodoos!" challenge was made possible, in part, by a grant from the National Park Foundation through the generous support of the Coca-Cola Foundation.

Benchmark	Distance	
	miles	km
Mossy Cave	0.8	1.3
Rim Trail	2.5	4.0
Tower Bridge	3.0	4.8
Queens Garden	1.8	2.9
Navajo Loop	1.3	2.2
Peekaboo (from Sunset Point)	2.4	3.9
Wall of Windows (from Bryce Point)	1.6	2.6
Sheep Creek	4.0	6.4
Bristlecone	1.0	1.6

Trail difficulty: Easy, Moderate, Strenuous



Backcountry Hiking

Bryce Canyon has two trails designated for overnight hiking: the 9-mile Riggs Spring Loop, and the 23-mile Under-the-Rim Trail. Backcountry permits are on a first-come, first-served basis; fees range from 5 – \$15 depending upon group size. Permits may be purchased at the visitor center from 9:00 a.m. – 12:30 p.m. and 1:30 p.m. – 6:00 p.m. daily.

There are two group sites available with a limit of 15 people per site. Campfires are not allowed in the backcountry. Use a campstove to cook meals. Backcountry water sources are unreliable and should be filtered. Each hiker should carry a minimum of one gallon of water for each day they are in the backcountry. We strongly encourage the use of bear-proof canisters for storing food. Canisters are available for loan free of charge at the Visitor Center.

The 23-mile Under-the-Rim Trail can be accessed by four different connecting trails along the park road. The 9-mile Riggs Spring Loop Trail begins and ends at Yovimpa Point. The park does not provide shuttle service to the southern end of the park. Note that these trails and campsites are in forests and *not* among the hoodoos.

Stop at the visitor center and talk to a ranger before making any overnight trip into the backcountry. Maps and information on trails, campsites, water availability, and backcountry regulations are available at the Visitor Center. Ask for a free Backcountry Information brochure to aid in planning your trip.



Black Bears are present in Bryce Canyon National Park. Use of bear-resistant food canisters on backcountry hikes is strongly encouraged. Canisters are available for loan, free of charge, at the Visitor Center.



Park Profile

Established

1923 as Bryce Canyon National Monument administered by the U.S. Forest Service; Congress passed legislation in 1924 to create the national park and, in 1928, Bryce Canyon National Park was officially established.

Significance

Established to preserve and protect outstanding scenic and scientific values. Best known for the beautiful and bizarre rock spires called hoodoos and the dark night sky.

Hoodoo

[hoo'doo] n. 1. A pinnacle or odd-shaped rock left standing by the forces of erosion. 2. v. To cast a spell or cause bad luck. 3. Voodoo.

Elevation / Size

Lowest: 6,620 feet (2018 m) Yellow Creek.
Highest: 9,115 feet (2778 m) at Rainbow Point.
55 square miles (35,835 acres)

Name

Ebenezer and Mary Bryce lived in the area from 1875-1880 and aided in the settlement of southwestern Utah and northern Arizona.

Humans

Ancestral Puebloans probably lived in the area from 2,000 years ago. They were followed by the Fremont Culture through the 1200s, then the Southern Paiutes until 100 years ago. Mormon settlers arrived in the 1870s. Park visitation in 1929 was 22,000; last year it was 1.3 million.

Plant Life

More than 400 native plant species live in the park. Pinyon pine and juniper grow among the hoodoos at low elevations; ponderosa pine forests dominate the plateau top; fir and aspen thrive at the highest elevations. Bristlecone pines, some more than 1,600 years old, live at various elevations throughout the park.

Animal Life

Utah prairie dogs, a federally threatened species, can be seen in open meadows. Mule deer and Pronghorn (mistakenly known as Antelope) are the most common large mammals seen. Mountain lions and black bears live in the park, but are rarely seen. About 210 species of birds visit Bryce.

Bryce Canyon Lodge

Designed by Gilbert Stanley Underwood and built in 1925, it is a National Historic Landmark. Of the four lodges in the Union Pacific Loop Tour (Bryce Canyon, Cedar Breaks, Zion, and Grand Canyon-North Rim), the Bryce Canyon Lodge is the only original of these structures still standing.

Hoodoos: The Odyssey of an Oddity

The geologic history at Bryce Canyon National Park is rich and complex. Many processes and events have interacted over vast amounts of time to create and continually alter this unique landscape. The story begins long before multicolor hoodoos emerged from this limestone that geologists call the Claron Formation. First, you need to lithify sediments – turn them to rock. Before lithifying sediments, you need to trap them in a basin. To build a basin you need to first build mountains.

Approximately (~) 200 million years ago (Ma), Earth's crust was crinkling throughout Nevada, into southern Canada. A strong, dense Pacific seafloor had smashed into North America's weaker continental crust. Much was at stake as the loser would be forced down and melted in Earth's mantle. Although North America remained on top, it was shattered in the contest. Over the 120 million year match, compressional forces bent, folded, broke, and heaved our crust into the sky, giving birth to the once mighty Sevier Mountains. Given enough time, rain and snow become geologic jackhammers splitting mountains apart. From the mountains, streams and rivers carried debris eastward, pulverizing the boulders to mud in transit.

Slightly before the dinosaurs went extinct, ~ 65 Ma, the land in the Western U.S. changed dramatically. Down but not out, the oceanic plate pushed up our continental crust, stubbornly surfing atop the mantle instead of sinking and melting. This attempt at escaping uplifted land, forming the Rocky Mountains and warping Utah and Arizona. The continued slow uplift shaped a land-locked basin between the Sevier Mountains and the younger Rockies. When the rivers wearing down the Sevier Mountains reached this basin they became braided streams and deposited layers of muds and silts. At the lowest levels, chains of lakes and ponds formed. Water escaped through evaporation, but with no rivers flowing out of the basin, the sediment was trapped. Between 55 - 30 Ma this mammoth mud puddle, known as the Claron Basin, continued to fill with sediments rich in calcium carbonate – dissolved limestone.

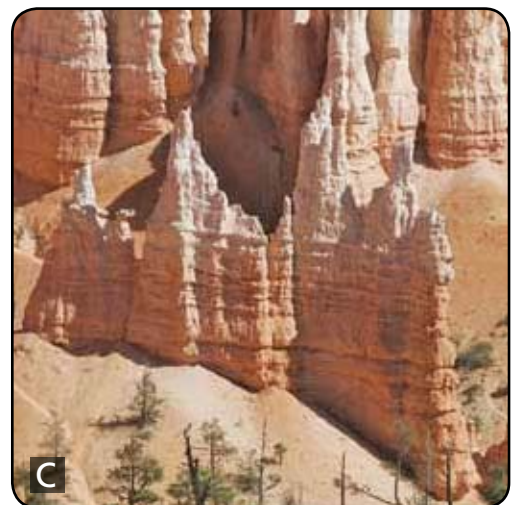
The Claron Formation consists of two types of limestone rock. It has a lower pink member and an upper white member. In the early years of the basin, the environment

appears to have been more marsh-like, where plant roots helped oxidize iron to give the sediments a red color. Within the pink member, thin and non-continuous gray layers formed, suggesting that individual ponds within this marsh setting became so salty and/or mineralized that only cyanobacteria could survive. These algal-like creatures enriched limestone with magnesium they took from the water to create dolostone – important to hoodoo formation. With the passage of time and an increase in water depth, the basin transitioned into purer lakes where the less iron-rich white limestone was deposited.

Geologists are unsure as to this mud puddle's fate as rocks that might have recorded this story do not exist. Did it evaporate away? Was it eventually drained as the basin was uplifted? What geologists are sure of is that over time these beds of sediment were compressed into rock and uplifted from 3000 ft to ~9000 ft in elevation. This uplift began ~15 Ma, forming the Colorado Plateau. About 8 Ma, the Bryce Canyon area broke off this uplift as the Paunsaugunt Plateau and has been sinking ever since into the Great Basin.

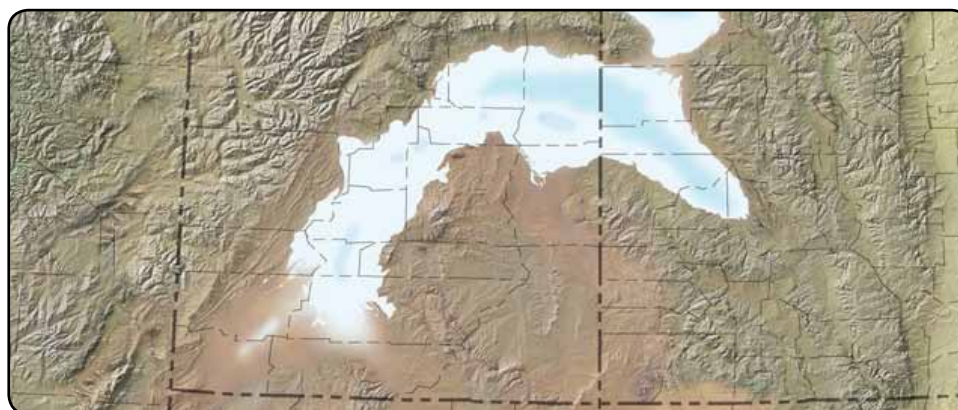
Technically, Bryce is not a canyon because canyons are primarily carved by flowing water – a stream or a river. Naturally acidic rainwater dissolves limestone, making the rounded edges of hoodoos, but the freezing and thawing of water does most of the sculpting at Bryce Canyon.

Approximately 200 days a year, ice and snow melt during the day and refreeze at night. When water becomes ice, it not only gets harder but expands to ~110% its original volume! This exerts enormous pressures on the rocks, forcing them apart from inside the cracks. First attacking the fractures created during uplift and faulting, the rock is chiseled into broken remains. Monsoon rains remove this debris, helping to reveal fins, the first step in hoodoo creation. Most commonly, the second step in hoodoo formation begins when frost-wedging cracks the fins, making holes we call windows. When windows collapse they create the rust painted pinnacles we call hoodoos. We often think of this process as hoodoo creation; when, in reality, it's just another step in water's endless process of destroying the rocks it began creating 55 million years ago.



Look closely at the rock formations and it becomes easier to see the progression from fins (A), which develop windows (B), that later collapse to form hoodoos (C).

Although visitors to Bryce come to see the hoodoos in the Claron Formation, five other rock formations also exist in the park. They tell stories of dinosaurs, beaches, and of a sea that once separated North America into two large islands. Ask a ranger to learn more about these times in Earth's history.



Utah region 50 million years ago. Sediments eroded from mountains in northwestern Utah were deposited in a lake, lithified (turned to stone), and later uplifted to be re-eroded into hoodoos.

Bryce Canyon Geology Festival

July 27 – 28, 2012

featuring

Special Guest Speakers

Geology Talks

Kid's Programs

& more

The Wild Side of Bryce Canyon

Pronghorn: Built for Speed



On this Pronghorn buck you can clearly see the forward-facing “prongs” from which the species derives its name.

They evolved at a time when North America was home to fierce predators. Today, no land animal in the Western Hemisphere can match their speed and only one in the world, the African Cheetah, can run faster. Based upon reports from explorers and settlers

crossing the American frontier in the 1800s, some researchers believe that the Pronghorn population may have equaled – or possibly even exceeded – that of the Bison. Before the westward expansion began it is estimated there were more than 40 million Pronghorns! They can run at speeds in excess of 60 miles per hour (98 kph) for as long as 4 minutes and have been observed running for several miles at speeds between 30 and 40 mph (48-60 kph).

But why the need for all this speed when no living North American predator can match them?

These fleet footed animals are relics, a link to the past as one of the few remaining survivors of the last Ice Age. Pronghorns evolved when the hemisphere was home to the American Cheetah, as well as other large predators, and in order to survive had to be fast. In addition to their amazing speed, they also have developed keen eyesight, able to detect movement up to 4 miles (6.5 km) away!

With no living natural predators these animals thrived, however, their numbers were reduced to less than 20,000 by the early 1900s. One primary reason was market hunting – at the turn of the 20th Century a whole Pronghorn carcass could be bought for 25 cents ! Another

reason was habitat fragmentation – livestock management fencing restricted Pronghorn migration patterns that followed forage and weather changes. Pronghorn migrate several hundred miles and, while fast, they never evolved the behavior to jump fences. Unable to negotiate fences to reach their winter foraging grounds, many starved. Modern wildlife and livestock managers have modified fences to accommodate the Pronghorns' need to migrate.

In Utah the species was completely extirpated and a successful reintroduction program was begun in the 1970s. Look for Pronghorns in the sagebrush meadows both inside and outside of the park. View them from a distance and please do not obstruct traffic by parking on roadways.



Though frequently called “antelope”, the Pronghorn's closest living relatives are Giraffes and Okapis of Africa.

A Threatened Resident - Utah Prairie Dogs

A year-round inhabitant of Bryce Canyon's high plateau meadows is the Utah Prairie Dog, *Cynomys parvidens*. Although called a prairie “dog”, this species is actually a member of the rodent family. Prairie dogs live in complex social colonies or “towns.” Their burrow systems are made up of several chambers and provide the animals with protection from predators, places to raise young, store food, and hibernate through the cold winter months. Utah Prairie Dogs are considered “keystone species” that perform a variety of important ecological functions including soil aeration which helps plants grow, providing prey for other animals, and maintaining healthy meadow ecosystems.

The Utah Prairie Dog's range is the most restricted of the four prairie dog species in North America and is limited to the southwestern quarter of Utah. Once nearly eradicated through poisoning, disease, habitat loss and drought, Utah Prairie Dogs currently number less than 5,000 animals. The Utah Prairie Dog has been federally listed under the Endangered Species Act

since 1973 and is protected as a threatened species. Bryce Canyon National Park reintroduced the Utah Prairie Dog from 1974 through 1988 and is the only National Park Service unit where they occur. Today, approximately 200 Utah Prairie Dogs are found within several meadow complexes within the



Park. Every year these colonies are monitored and counted to track the health of the animals and their habitat.

Although protected, the Utah Prairie Dog still faces challenges to its survival as human development, disease and drought continue to

threaten remaining colonies. Please help us protect our Utah Prairie Dogs!

- Drive slowly around prairie dog towns – they live in the Park's meadows and can be seen next to and sometimes crossing roads.

- Do not feed or approach prairie dogs: it is illegal *and* dangerous! All prairie dog species may carry and transmit diseases to humans. By feeding wildlife you decrease their ability to survive in the wild.

Bryce Canyon National Park is helping to recover and protect the Utah Prairie Dog. We're lucky to have this special animal within the Park – please appreciate these amazing creatures from a distance!

UTAH PRAIRIE DOG DAY!



Friday June 22, 2012

What Other Animals Live Here?

For a small park, Bryce Canyon has several types of habitat which support a diversity of wildlife. While you may not see lots of any one species, you will see a variety of animals if you know when and where to look.

Habitat: [Sagebrush](#), [Meadow](#), [Forest](#), [Canyon](#), All habitats
Season: W=Fall/Winter, S=Spring/Summer, A=all seasons
Best time to look: d=day, t=twilight, b=both day and twilight
Difficulty in finding: e=easy, h=hard, u=unlikely

Please report all sightings of predators (black bear, mountain lion, foxes, bobcat, coyote, etc.) to a Park Ranger or the Visitor Center. In addition, please report any wildlife hit on the road to a Park Ranger. Studying road-killed wildlife helps Park Resource Managers track animal diseases such as plague and rabies.

Mammals:

Mule Deer	A,b,e
Pronghorn	A,d,h
Elk	W,t,h
Prairie Dog	S,d,e
Coyote	A,b,h
Gray Fox	A,b,h
Ringtail	A,t,h
Black Bear	A,b,u
Mtn. Lion	A,b,u
Jackrabbit	A,b,e
Cottontail	A,b,e
Squirrels	S,d,e
Chipmunks	S,d,e

Birds:

Turkey Vulture	S,d,e
Golden Eagle	A,d,h
Red-tailed Hawk	S,d,h
Peregrine Falcon	S,d,u
Wild Turkey	A,d,h
Dusky Grouse	A,d,h
Mourning Dove	A,d,h
Great Horned Owl	A,b,u
N. Saw-whet Owl	A,t,u
C. Nighthawk	S,t,e
C. Raven	A,d,e
Clark's Nutcracker	A,d,e
Steller's Jay	A,d,e

Dark-eyed Junco	A,d,e
Violet-green Swallow	S,d,h
W. & Mtn. Bluebirds	S,d,h
Western Tanager	S,d,e
Pygmy Nuthatch	A,d,h

Reptiles/Amphibians:

G.B. Spadefoot Toad	S,d,u
N. Leopard Frog	S,d,h
Short Horned Lizard	S,d,e
Sagebrush Lizard	S,d,h
Gophersnake	S,d,u
W. Rattlesnake	S,b,h

NEVER approach or attempt to feed any wild animal!

Help Stop Animal Cruelty

Feeding wild animals is a sad example of how good intentions can unwittingly cause serious harm. In fact, feeding wildlife is actually a form of animal cruelty!

Fed animals frequent roads and parking lots where they are likely to get run over by cars.



Furthermore, wild animals have very strict natural diets with very specific types of digestive bacteria. Human food causes the wrong type of digestive bacteria to become dominant. Soon, fed animals can no longer digest their natural foods and ultimately will starve to death with full stomachs. What could be more cruel?

Fed animals teach offspring to beg for food. The young animals may never learn the necessary skills to find natural foods and grow up totally dependent on humans for survival.

The act of feeding wildlife can also be dangerous to people. Rodents notoriously transmit diseases. You put yourself in jeopardy every time you get within flea-jumping distance 6-9 feet (2-3 m) of a squirrel or prairie dog. Worse yet, feeding can cause normally docile animals, like deer, to become aggressive. In one sad instance at Yosemite National Park, a young child was gored and killed by a “spike” deer buck when he refused to relinquish his sandwich to the animal.

Giving in just once to the big, brown, pleading eyes of a cute animal can have major consequences. Be responsible. Learn to be a friend of wildlife by not trying to befriend animals with food.

Please spread the word. True animal lovers don't feed wild animals. *Help protect your national parks.*

Ne donnez pas à manger aux animaux!

¡No dé comida a los animales!

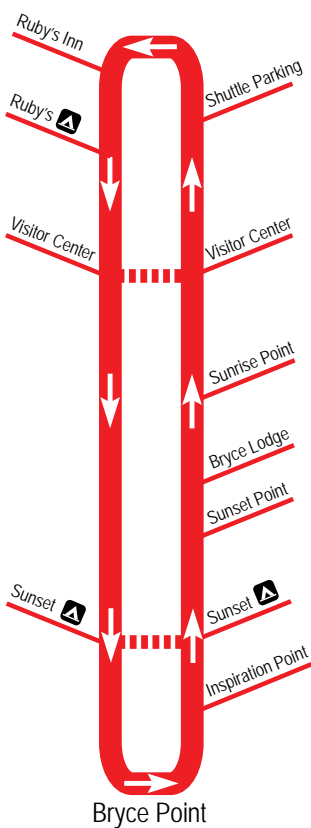
Bitte nicht die Tiere füttern!

Please do not feed the animals!



Touring the Park

Bryce Canyon Shuttle



FREE SHUTTLE! Bryce Amphitheater Route

The Bryce Canyon Shuttle is **voluntary**. Riding the shuttle reduces traffic, conserves fuel, saves time, money, and the planet! Shuttle buses are fully accessible. Pets are not allowed.

2012 Season: May 4 – October 7
Hours:
8 am – 6:50 pm May 4 – 16
8 am – 7:50 pm May 17 – September 15
8 am – 6:50 pm September 16 – 29
8 am – 5:50 pm September 30 – October 7

Bus Interval:
8 – 10 am: 20 mins
10 am – 5 pm: 10 – 15 min
5 pm – close: 20 mins

LAST BUS	Enters Park	Arrives Bryce Pt.	Leaves Park
May 4 – 16	6:05 pm	6:20 pm	6:50 pm
May 17 – Sep 15	7:05 pm	7:20 pm	7:50 pm
Sep 16 – 29	6:05 pm	6:20 pm	6:50 pm
Sep 30 – Oct 7	5:05 pm	5:20 pm	5:50 pm

(all times are approximate)

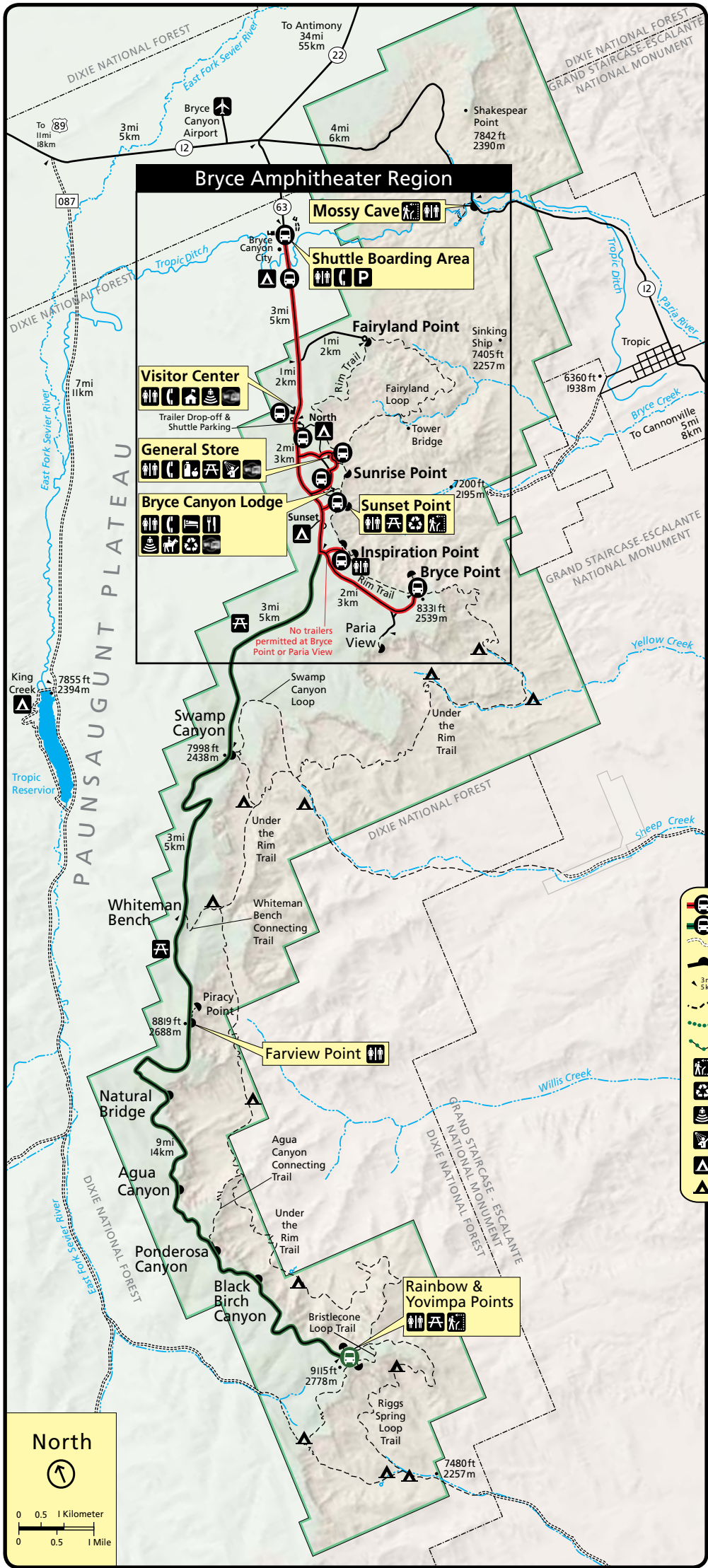
Rainbow Point Tour: In addition, two round-trip tours to Rainbow Point are offered most days, one in the morning and one in the afternoon. For further information, inquire at the Shuttle Boarding Area outside the park or at the Visitor Center. For tour reservations call 435-834-5290.

Scenic Drive Highlights . . .



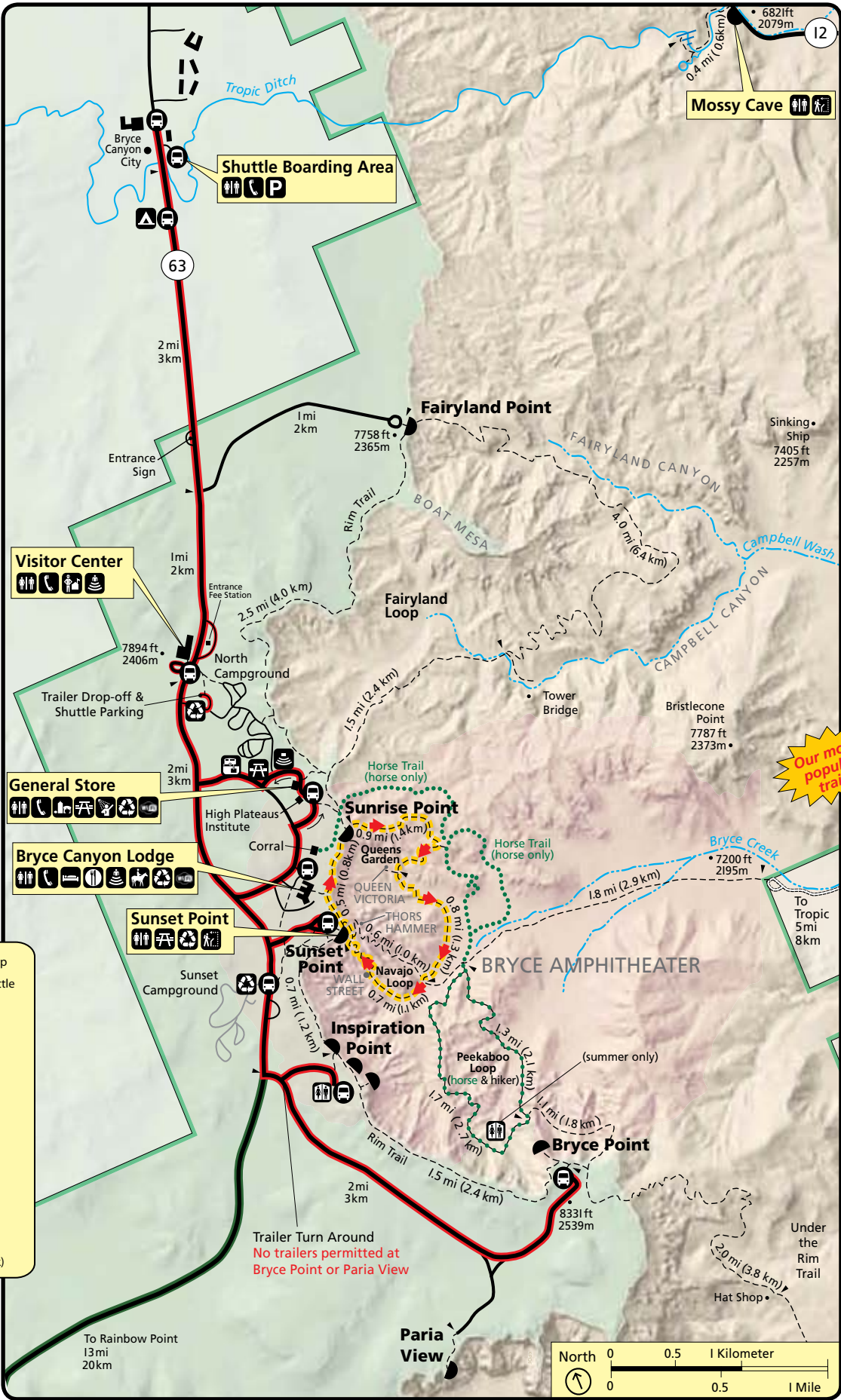
Natural Bridge, Agua Canyon, Yovimpa Point, Rainbow Point (clockwise from top left).
6 The Hoodoo

Bryce Canyon National Park



Hiking the Park

Bryce Amphitheater Region



Hiking Reminders...

- CAUTION! Rocks occasionally fall on most hiking trails. If you see or hear active rockfall, leave the area.
- Wear hiking boots with lug soles and ankle support.
- Carry plenty of water; drink a quart/liter for every 2 to 3 hours of hiking.
- Park elevations reach over 9115 feet (2778 m). Even mild exertion may leave you feeling light-headed and nauseated.
- Know and respect your own physical limitations.
- Trails with this symbol are used by horses April-October. Horses have right-of-way. Stand on uphill side of trail to let horses pass. Give them warning of your presence. Talk, don't yell.
- Stay on maintained trails. Do not take short cuts.
- Do not feed the wildlife. Do not throw anything, anywhere, at any time.
- Be respectful of others; keep noise levels down—no yelling.
- Pack out all trash including tissue paper and cigarette butts.
- Pets are not permitted on any unpaved surface or trail.
- Uphill hikers have the right of way.
- Remember, you are entering a wild setting. Ultimately, you are responsible for your safety and the safety of those around you. Take what you bring; leave what you find.

Day-Hiking Trail Guide

Where's a Good Hike? Bryce Canyon has 8 different day-hiking trails. Because many of these trails are interconnected, our most popular hikes are combinations of two or more of these basic trails. **If you can only do one hike, the Queen's/Navajo Combination Loop might be the best choice.** Take this page with you while hiking.

TRAIL NAME / STARTING POINT	ROUND TRIP	ELEVATION CHANGE	DESCRIPTION
Easy to Moderate Hikes (gentle grades & minimal elevation change)			
MOSSY CAVE* North end of Bryce along Hwy 12 (not a loop)	0.8 mi 1.3 km 1 hour	 6920ft 2109m 6827ft 2080m 200ft 61m	Streamside walk up to a mossy overhang and small waterfall. (Waterfall flows May-October.)
SUNSET TO SUNRISE Sunset Point (not a loop)	1.0 mi 1.6 km 1 hour	 8000ft 2080m 8024ft 2446m 34ft 10m	Paved portion of Rim Trail; fairly level from Sunset Point to Sunrise Point. Sunrise Point overlook NOT wheelchair accessible.
RIM TRAIL* Anywhere along rim (not a loop)	1.0-11.0 mi 1.6-17.7 km (you pick start and end points)	 7780ft 2371m 8315ft 2534m 1177ft 359m	Outstanding views of hoodoos from above. Trail is paved and fairly level between Sunset and Sunrise Points.
BRISTLECONE LOOP* Rainbow Point	1.0 mi 1.6 km 1 hour	 9115ft 2778m 200ft 61m 8939ft 2725m	Hike through spruce-fir forests to cliffs with bristlecone pines and expansive vistas.
QUEENS GARDEN* Sunrise Point (not a loop)	1.8 mi 2.9 km 1-2 hours	 8001ft 2439m 357ft 109m 7676ft 2340m	The least difficult trail into the canyon. See Queen Victoria at the end of a short spur trail.

Moderate Hikes (steep grades with "down & back" elevation change)			
NAVAJO LOOP* Sunset Point	1.3 mi 2.2 km 1-2 hours	 8000ft 2438m 550ft 168m 7476ft 2279m	See Wall Street, Two Bridges, and Thors Hammer on this short but steep trail. <i>Clockwise direction recommended.</i>
QUEENS/NAVAJO COMBINATION LOOP* Sunset or Sunrise Point <i>World's best 3-mile hike!</i>	2.9 mi 4.6 km 2-3 hours	 8001ft 2439m 600ft 183m 7476ft 2279m	Combine two trails described above with the Rim Trail to form a loop. <i>Clockwise direction recommended.</i>
TOWER BRIDGE* North of Sunrise Point (A portion of the Fairyland Loop - not a loop)	3.0 mi 4.8 km 2-3 hours	 7984ft 2433m 802ft 245m 7210ft 2197m	See bristlecone pines and the China Wall. A shady 1/4-mile spur trail leads to the bridge.
HAT SHOP Bryce Point (not a loop)	4.0 mi 6.4 km 3-4 hours	 8315ft 2534m 1075ft 328m 7380ft 2249m	Descend Under-the-Rim Trail to see a cluster of balanced-rock hoodoos.
SHEEP CREEK/SWAMP CANYON LOOP* Swamp Canyon	4.0 mi 6.4 km 3-4 hours	 8079ft 2463m 647ft 198m 7432ft 2285m	Start at Swamp Canyon viewpoint for a beautiful hike through a section of Bryce Canyon's backcountry. Good route-finding skills a must.

Strenuous Hikes (steep grades with MULTIPLE elevation changes)			
FAIRYLAND LOOP* Fairyland Point or north of Sunrise Point	8.0 mi 12.9 km 4-5 hours	 8075ft 2461m 1736ft 523m 7142ft 2176m	See the China Wall, Tower Bridge and tall hoodoos on this spectacular, less-crowded trail.
PEEKABOO LOOP* Bryce Point	5.5 mi 8.8 km 3-4 hours	 8315ft 2534m 1571ft 479m 7429ft 2264m	Steep but spectacular hike through the heart of Bryce Amphitheater. See the Wall of Windows.
NAVAJO/PEEKABOO COMBINATION LOOP* Sunset Point	4.9 mi 7.8 km 3-4 hours	 8000ft 2438m 1581ft 482m 7390ft 2252m	Combine Navajo and Peekaboo Loop Trails into a mini figure-8.
THE 'FIGURE 8'* (QUEENS GARDEN/PEEKABOO/NAVAJO COMBINATION) Sunrise or Sunset Point 	6.4 mi 10.2 km 4-5 hours	 8001ft 2439m 1633ft 497m 7390ft 2252m	Combine Queens Garden, Peekaboo Loop, and Navajo Trail into one ultimate hike!
BRYCE AMPHITHEATER TRAVERSE* Bryce Point (May to Oct during shuttle operations)	4.7 mi 7.5 km 3-4 hours	 8315ft 2534m 1030ft 310m 7390ft 2252m	Descend from Bryce Point. Turn left (clockwise) on Peekaboo Loop to canyon floor and climb Queens Garden Trail to Sunrise Point. Hike or ride shuttle back.

* Trails marked with an asterisk are part of the "Hike the Hoodoos!" adventures described on page 3.

Lightning Safety



A bolt of lightning contains about a billion volts and can reach 50,000 degrees Fahrenheit! This photo was taken from Sunset Point.

Take Lightning Seriously
Summer storms at Bryce Canyon bring lightning, a powerful force which can and does kill. Take a look along the canyon’s edge, and you’ll soon spot one of the countless trees that have been struck. Don’t let that be you!

Here at Bryce Canyon, lightning has claimed the lives of three visitors in the past 18 years. Six other visitors have been seriously injured by lightning strikes.

In the state of Utah, Bryce Canyon is the second most common place for lightning fatalities and injuries, behind the Uinta Mountains. Considering that the park is much smaller in area, Bryce Canyon has the highest lightning hazard density in the state!

Where is it Safe?
The safest place to be is in an enclosed building with walls, roof, and floor (such as the Visitor Center). The next best place is in an enclosed vehicle.

If you can’t get to a safe location, avoid the most dangerous places and activities, including higher elevations, wide-open areas, tall isolated objects, water-related activities and open vehicles. **Do not go under trees to keep dry during thunderstorms!**

How Do I Plan for Safety?
In this area, thunderstorms usually occur in the afternoon during July and August. If possible, plan your outdoor activities for the early part of the day. Learn and practice the **30/30 Rule** (see below).

When is it Time to Seek Shelter?
Begin counting as soon as you see a flash of lightning. If you CANNOT **count to 30** (i.e., 30 seconds) between the flash and hearing its thunder, it is unsafe to be outdoors. You should seek shelter immediately.



When is it Safe to Go Back Outside?
It is not safe to be outdoors until at least **30 minutes** after you hear the last thunderclap or see the last flash of lightning.

Don’t be fooled by the bright sunshine overhead! Lightning can strike away from the dark clouds. Be alert to new storms developing in the area.

Remember, your safety is YOUR responsibility. Learn the signs of an impending lightning storm. Be willing to alter your visit to make the safe choice. Practice the 30/30 rule.

Fire: A Burning Issue

You may notice signs of forest fires here at Bryce Canyon. Some fires were started by lightning; others were intentionally set by park management using a practice called prescribed burning.

Fires were once a common natural occurrence throughout this area. Before the late 1800s, lightning frequently started fires which rejuvenated plant growth, recycled soil nutrients, cleared undergrowth, and increased wildlife habitat diversity. Grazing, fire suppression, and other land management practices have altered this natural cycle and created an unhealthy forest with dangerous accumulations of dead trees and underbrush in some areas of the park.



Smoke from the 2009 Bridge Fire from Swamp Canyon.

A primary mission of the National Park Service is maintaining dynamic natural processes. At Bryce Canyon, the wise use of fire is an important tool in the effort to restore a healthy balance to our forest ecosystems. Here, fire managers use prescribed fires, which are intentionally ignited during periods of manageable fire behavior to rejuvenate forests and meadows. In addition, natural fires ignited by lightning are allowed to burn within confined zones under proper conditions and , frequently, cost less money to manage.

During the summer of 2009, Bryce Canyon Fire Management, working with the Dixie National Forest, managed a wildland fire that burned for three months. The Bridge Fire started June 14, 2009 from a lightning strike on national forest lands. The fire burned for one month before it swept into the park atop Whiteman Bench. Evidence of this fire may be seen between mile markers 8 and 10 on the park road. You may also see it below Swamp Canyon and Farview Point. The Bridge Fire burned a total of 4,760 acres (1,926 hectares), of which 1,925 acres (779 ha.) were within the park’s boundary, making it the largest wildland fire in the park’s history. It was allowed to burn in order to open the forest canopy and forest floor to promote the regeneration of ponderosa pine, quaking aspen and other native species.

As you notice the blackened trees also look for deer, elk, prairie dogs, and countless species of birds that thrive here because of our management of fire. Park scientists measure how plants and animals respond to fire in order to continuously refine fire management practices for the benefit of forest and grassland plant communities as well as the animals they support.

Is This Weather Normal?

WEATHER AT BRYCE CANYON		MONTH											
		J	F	M	A	M	J	J	A	S	O	N	D
TEMPERATURE (°F)													
Normal Daily Maximum		39	41	46	56	66	76	83	80	74	63	51	42
Normal Daily Minimum		9	13	17	25	31	38	47	45	37	29	19	11
Extreme High		62	66	76	82	89	96	97	94	91	85	75	67
Extreme Low		-30	-29	-13	-5	5	20	25	17	17	-2	-20	-23
Avg. # of Days that rise above 90°F		0	0	0	0	0	1	4	0	0	0	0	0
Avg. # of Days that drop below 32°F		31	28	31	20	20	6	0	9	9	22	29	31
PRECIPITATION													
Normal		1.7	1.4	1.4	1.2	0.8	0.6	1.4	2.2	1.4	1.4	1.2	1.6
Maximum		9.2	6.8	6.8	3.8	2.3	2.7	3.8	4.8	4.2	4.5	5.4	6.2
Maximum 24 hr. Precipitation		2.3	1.5	1.5	1.8	1.2	1.7	1.8	3.8	3.4	1.7	1.5	3.2
Maximum Snowfall		63	75	75	62	18	6	T	T	4	22	22	49
Days with Measurable Precipitation		7	7	8	6	5	3	5	6	4	4	5	6
Average # of Thunderstorms		0	0	0	1	5	6	14	19	7	2	0	0
SUNSHINE / CLOUDINESS													
Number of Clear Days		9	7	9	10	12	17	16	16	18	17	11	10
Number of Partly Cloudy Days		8	8	8	9	10	8	10	10	8	7	8	8
Number of Cloudy Days		14	13	14	11	9	5	5	5	4	7	8	13
% Possible Sunshine		56	64	60	68	74	83	77	79	80	75	63	60

Bryce Canyon's high altitude and semi-arid climate cause extreme and sudden changes in the weather. It's not uncommon for the temperature to fluctuate 40° F in a single day. Thunderstorms occur 7 months of the year! Here, weather averages can be misleading. Locals will tell you they are hesitant to even trust radar and satellite forecasts without first modifying those predictions with their own experience. This underscores the poorly understood distinction between weather and climate:

WEATHER is what is happening now, what is likely to happen tomorrow, and/or what was recorded on a given day.

CLIMATE is a summary of the range of what is the most probable weather occurrences an area usually experiences. It is not based merely on averages as much as it is on what amount of variability is normal. So don't check the climate table to see if today's weather is average. Check to see if it's within normal range for this month of the year.

Yeah, but how much Hotter, Drier, and Stormier?

Bryce Canyon is already experiencing the effects of Global Climate Change. Some observations – such as 65 years of weather data – suggest subtle changes, while other discoveries – though more anecdotal – are more attention-getting.

In recent decades, rattlesnakes have been found summering at the highest elevations in the park. Being reptiles, rattlesnakes usually freeze to death when they try to overnigh above 8000 feet. (Graph #1 shows warming low temps.)

In the summer of 2002, for the first time since its 1892 completion, the Tropic Ditch that carries irrigation water from Tropic Reservoir, through Bryce, to the town of Tropic, *ran dry!* In response, all but the section flowing along the Mossy Cave Trail was "piped" in 2010 to protect the dwindling water supply. Tropic Reservoir gets most of its water from snow-melt. (Note snowfall decline in graph #2.) Our snow-pack also supplies natural springs. But in 1998, flush-toilets and drinking water were removed from Rainbow Point due to diminished flows of the Yovimpa Pass Spring.

Until recent awareness efforts, lightning caused more fatalities than even falling deaths. Yet, graph #2 shows that while snowfall is declining, overall precipitation is slightly decreasing. This means that snowfall is being replaced by rain. When this increase in rain comes as thunderstorms, this can increase lightning danger and may result in more flash-flooding. Sections of Bryce Canyon's Under-the-Rim-Trail and two backcountry campsites were obliterated by severe flash-floods in 2010.

Worst of all, perhaps even our hoodoos are vulnerable to Global Climate Change. Frost-wedging keeps these limestone spires tall and vertical, while chemical weathering of acidic rainwater smooths and rounds them off. All three graphs (but especially #3) show that frost-wedging winters are going to give way to more rainy summers. Our hoodoos may prematurely become lowly lumps rather than the majestic towers we are all accustomed to.

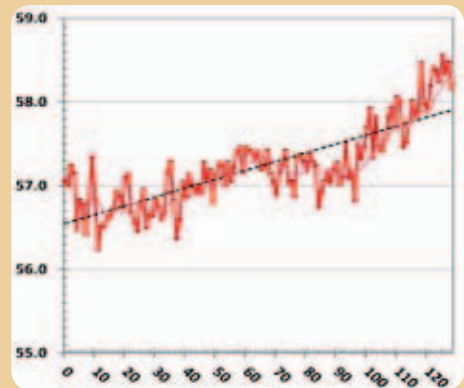
Yet all hope is not lost. Though climate change is a daunting and malignant problem, it has been likened to smoking. Quit the bad habit, and health improves because further harm is halted. Mother Nature – who already cleans up more of our mess than we do (see diagram below) – is like the human body: capable of healing herself if only given a decent chance. Reducing, reusing and recycling is good place to start. Making our homes and cars more energy efficient is the most cost-effective improvement. But our best chance to avoid the worst ravages of Global Climate Change is to switch from fossil fuels, such as coal-generated electricity, to green energy sources as soon as possible. That, above everything else, will determine just how much hotter, drier, and stormier, places like Bryce Canyon will become.

Do You Want to See Reality or Something Better?

Graphs are commonly used to explain Global Climate Change science. Unfortunately, reading graphs can be difficult. Sometimes concepts are too complicated, or the change is too subtle. Still other times, human nature makes it hard for us because we won't believe what we don't want to believe!

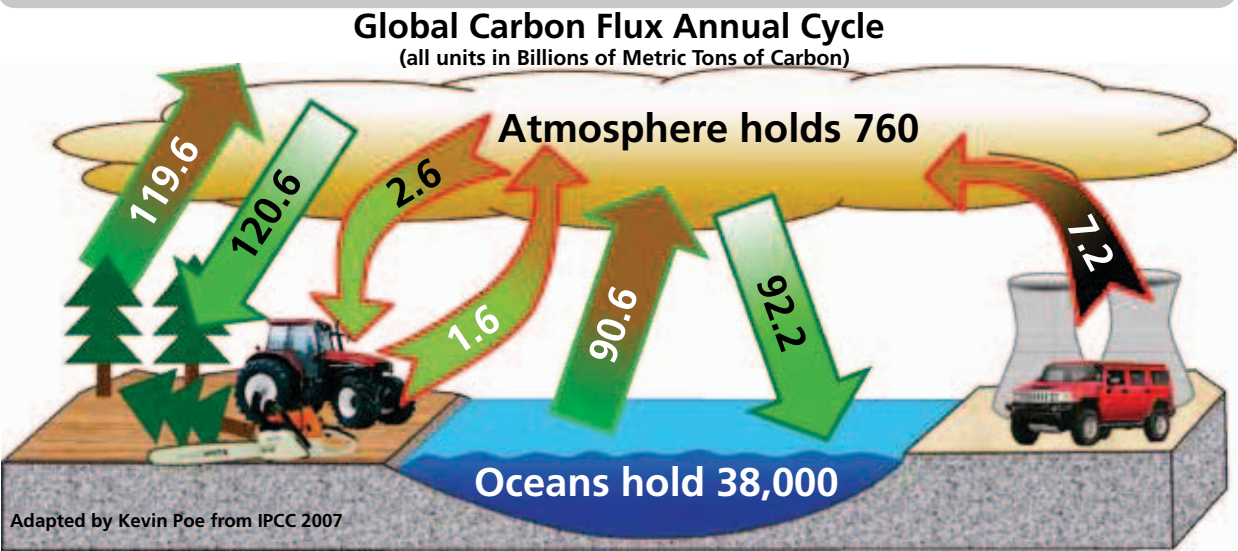
Nobody likes bad news and because so much of climate change is bad news, many prefer to ignore, be skeptical, or just plain deny valid data.

Consider the two graphs below. One shows 128 years of average global temperature increase, while the other shows 128 weeks of stock performance for Apple®. Though both graphs are very similar, many people will see one graph as obvious proof of a profitable company with whom to make long term investments, while the other graph is merely questionable science that doesn't require any immediate action. Why?



Ask a Bryce Canyon ranger if you're not sure which graph is which.

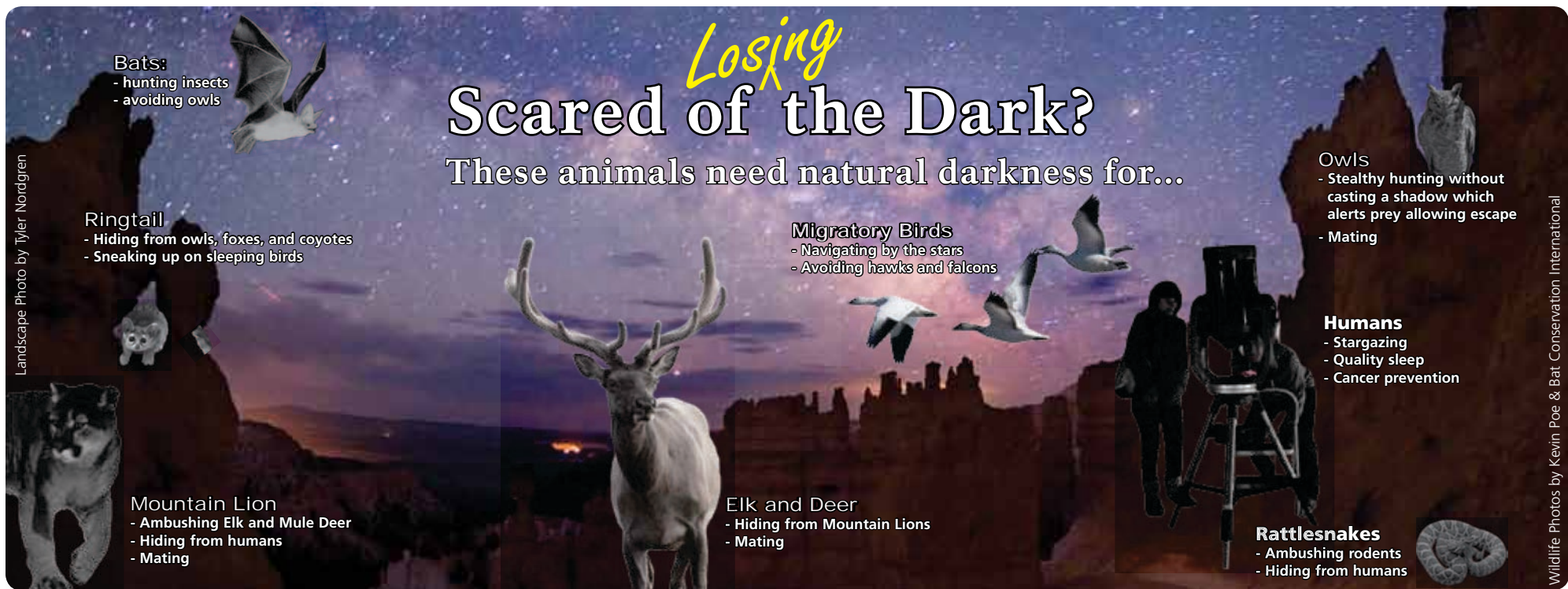
Mother Nature produces the most atmospheric Carbon? **True** or False
Humanity is still the main cause of the Climate Crisis? **True** or False



How can both be True?! Are all the scientists crazy?!

Some scientists might be crazy, but it doesn't make them any less right. This half-truth is often used to encourage the public to doubt the 97% of scientists who agree that the Climate Crisis is real and human-caused. The whole truth, as the math shows below, is that each year Mother Nature consumes more carbon than she produces, whereas humanity, though producing much less CO₂, fails to sequester (clean-up) even half its annual carbon increase.

HUMANITY	POLLUTION	SEQUESTRATION	
Farming/Forestry	+1.6	-2.6	
Energy/Industry	+7.2	-0.0018	
	+8.8	-2.6 = +6.2	
NATURE	DECAY	GROWTH	CARBON SURPLUS
Plants	+119.6	-120.2	(A VERY bad thing)
Plankton	+90.6	-92.2	+6.2 Humanity
	+210.2	-212.4 = -2.2	-2.2 Nature
			+4.0 Humanity



Some people are afraid of the dark. Yet, Bryce Canyon's night-sky advocates, "The Dark Rangers," are scared of the light! Perhaps you'd be fearful too, if it was your job to protect that last grand sanctuary of natural darkness.

Watching wildlife is often why people visit national parks. But did you know that so many of your favorite animals are nocturnal? All amphibians, most mammals, and many bird species are nocturnal. As shown above, any human light that exceeds the brightness of a full Moon, upsets the predator/prey balance, confuses navigation, disrupts reproduction, and displaces animals from otherwise healthy habitat. Because the light from cities can shine over 200 miles (300km), protecting park wildlife from artificial light can only be achieved if everybody switches to night-sky friendly lights.

Night-sky friendly lights are amber-yellow in color, instead of blue-white. Night-sky

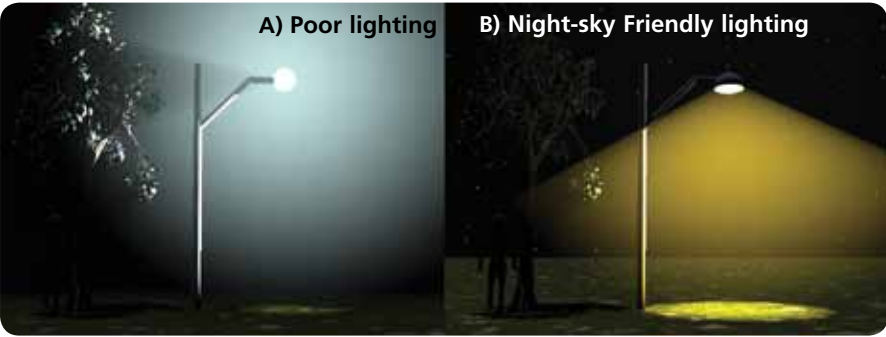
friendly lights are also shielded and ideally controlled by motion sensors so they only come on when they are needed. Poor lights not only contribute to global light pollution they are also less safe. Safety isn't about the amount of light, it's about designing lights that take away the "hard" shadows where criminals like to hide (see light comparison images below). Night-sky friendly lighting also requires less "base load" electricity, which usually comes from coal-fired power stations, the most polluting sources of electricity.

Being far from major cities, Bryce is a phenomenal place for stargazing. With a limiting magnitude rating of 7.4, our sky is up to six times darker than most astronomical research locations. Indeed, our 11" diameter telescopes function just as well as 24" telescopes at more famous astronomy locales like Kitt Peak, Arizona and Mt. Palomar, California. Through our scopes you will not only see the rings of Saturn, but also seven of its moons! We can show you dozens of nearby galaxies including the ongoing collision of the famous Whirlpool Galaxies.

On a moonless night at Bryce, you'll notice that light from Venus causes you to cast a shadow; and even without a telescope you can see 7500 stars. But, if we were to add just one un-shielded streetlight, that number would plunge to 2500 stars!

Before being veiled by the light pollution of the modern world, these wonders were once visible everywhere. Now over much of Earth they are hard to detect. Here at Bryce Canyon, we can still see the Milky Way (our galaxy's other great spiral arm) – stretching like a silvery rainbow from horizon to horizon. Yet, less than half of the residents of the northern hemisphere can see *any* of the Milky Way!

It is easy to feel insignificant underneath such vastness yet, ironically, it is within the individual's power to help preserve such a view. For example, close your blinds at night and replace porch lights with motion-sensor security lights. Become involved in local efforts to establish night-sky friendly lighting ordinances. Who knows? Perhaps your home town has the potential for Bryce Canyon-quality stargazing. In most places, all it takes to restore the heavens is overcoming the fear of darkness and unifying behind the responsible management of artificial light.



The Dark Rangers' Summer/Fall Night-Sky Program Schedule

8:30pm Start Times	May 31	June 28	July 31	Aug. 28	Sept. 25
May 1	9:00pm Start Times	June 30	Aug. 2	Aug. 30	Sept. 27
May 3	June 2	July 3	Aug. 4	Sept. 1	Sept. 29
May 5	June 5	July 5	Aug. 7	Sept. 5	Oct. 4
May 8	June 7	July 7	Aug. 9	Sept. 6	Oct. 6
May 10	June 9	July 10	Aug. 11	Sept. 8	Oct. 9
May 12	June 12	July 12	8:30pm Start Times	7:30pm Start Times	Oct. 11
May 15	June 14	July 14	Aug. 14	Sept. 11	Oct. 13
May 17 – 20*	June 16	July 17	Aug. 16	Sept. 13	Oct. 16
May 22	June 19	July 19	Aug. 18	Sept. 15	Oct. 18
May 24	June 21	July 21	Aug. 21	Sept. 18	Oct. 20
May 26	June 23	July 24	Aug. 23	Sept. 20	Oct. 23
May 29	June 26	July 26	Aug. 25	Sept. 22	Oct. 25

Each night begins with a choice of two 1-hour multimedia shows, each with different night-sky related topics. Check at the Visitor Center and choose the show and location that most interests you.

After the indoor presentations, it's out to the telescopes to enjoy the real sky! Remember to bring warm clothes. Even in August, temperatures may dip down as low as 40° F / 4° C!

Though the multimedia shows are never cancelled, stargazing is weather-dependent.

*12th Annual Bryce Canyon Astronomy Festival concluding with an annular solar eclipse!



Full Moon Hike Schedule

May 4	July 3	Sept. 29
May 5	Aug. 1	Sept. 30
June 3	Aug. 2	Oct. 28
June 4	Aug. 31	Oct. 29
July 2	Sept. 1	

Our most popular activity is the **FULL MOON HIKE** – no artificial light allowed! Group size is limited to 30 people (ages 6 and up) per Dark Ranger. To obtain a **FREE** ticket you must sign-up at the visitor center the morning of the hike.

NO advance reservations permitted!

Only people who can prove they have "lug" traction shoes/boots will be issued tickets. Come join us for one of these ultimate nocturnal adventures.



Our Sun, the Moon, and Venus will be putting on a pair of interesting shows this year. First, our Annual Astronomy Festival concludes on May 20 with an annular solar eclipse. Then, just 16 days later on June 5, Venus will transit the Sun - a rare event that will not be visible from Earth again until 2117!



Milky Way rises over Inspiration Point. Photo by Tyler Nordgren.

Bryce Canyon Natural History Association

PO Box 640051, Bryce, UT 84764-0051 888-362-2642 Fax 435-834-4606 www.brycecanyon.org

Established in 1961, Bryce Canyon Natural History Association is a non-profit organization dedicated to assisting Bryce Canyon National Park and Dixie National Forest in furthering their scientific, educational, historical, and interpretive activities. This is accomplished, by making educational publications and materials available for sale and/or free distribution, and supporting existing interpretive activities, like the Junior Ranger Program.

Every purchase from a Bryce Canyon Natural History Association bookstore helps support our mission.



Many exciting educational programs have been offered through the High Plateaus Institute including geology, astronomy, plants, wildlife, cultural history (ranching and cowboy poetry) and photography. The High Plateaus Institute (HPI) plays host to a variety of researchers each year, as well as providing a location for ranger-led programs for kids and families. For further information, contact the BCNHA Education Specialist at (435) 834-4784.

V.I.P.s (Volunteer-In-Parks)

Last year, more than 200 volunteers donated over 20,000 hours to Bryce Canyon National Park! If **you've** got time and talents to share, why not become a Volunteer-In-Park (V.I.P.)?

For more information, log on to: www.volunteer.gov/gov.

As a Natural History Association member, you can help us:

- Publish nearly a half million pieces of free literature for park visitors each year.
- Support educational outreach programs to schools in southern Utah and beyond.
- Continue National Park Service research projects that document the natural and human history of Bryce Canyon National Park.
- Support the Junior Ranger Program.
- Publish sales items like books, maps, posters, and audio-visual products that educate visitors about Bryce Canyon National Park and Dixie National Forest.
- Support the Bryce Canyon Interpretation Division of the National Park Service.
- Provide university scholarships to deserving students.

Purchase a \$35 Membership to receive these benefits:

- 15% discount on all books, maps, posters, and other products sold in our stores, and online at www.brycecanyon.org.
- Discounts to hundreds of other stores operated by more than 60 other nonprofit cooperating associations in national parks and other public lands in the United States (must show membership card to receive discount).
- Discount on most High Plateaus Institute courses. These courses offer in-depth outdoor education to visitors. Call 888-362-2642 or check our website for listings.

Thank You to Our Donors & Partners

Bryce Canyon National Park is grateful to its generous donors and partners who improve park programs and services.

The **Bryce Canyon Natural History Association** provides the park with booklets and badges for the Junior Ranger program, printing costs for this **Hoodoo newspaper** and other publications. The Association also funds a full time Education Outreach Specialist for the park.

The **donation box** in the lobby of the visitor center has funded interpretive equipment that directly benefits the visiting public. A "state of the art" projector for the visitor center auditorium was purchased in 2007.

Each year since 2008, two Geoscientist-in-Park interns have been funded by the **Geologic Society of America**. These interns assisted with research, presented public geology programs throughout the summer, and provided training for park staff on the geology of the Colorado Plateau. Our Natural History Association also helped to fund these two positions.

The **Lodge at Bryce Canyon** and **Ruby's Inn Resort** have implemented a Dollar Check-Off Program. Hotel guests have the option of donating a dollar to the park each night of their visit. These programs have funded seasonal employees for interpretation and the trail crew.

A hearty "thanks" to our generous donors and park partners. We couldn't do it without you!

Let's Move Outside!

In February 2010, First Lady Michelle Obama launched the *Let's Move!* Initiative, dedicated to solving the problem of childhood obesity so that kids born today will grow up healthier and better able to pursue their dreams. *Let's Move!* encourages kids and their families to eat healthier and exercise more. When children combine physical activity with healthy eating in their daily routine, they build lean muscle, reduce fat, promote strong bones and joint development, reduce stress, and decrease the risk of obesity-related diseases.

Over the past three decades, childhood obesity rates in America have tripled. Today, almost 33% of our nation's children are overweight or obese. Consider that, in a typical day, American adolescents spend an average of 7.5 hours engrossed in TV, computers, cell phones, and movies. Yet all parents need to do is entice their kids away from electronic media for a single hour each day with fun family outside play.

As part of the *Let's Move!* Initiative, the Department of Interior has created

Let's Move Outside!—now underway in national parks across the nation. Regular exercise in nature has shown to improve children's physical and mental health. *Let's Move Outside!* encourages kids and their families to take advantage of America's great outdoors by engaging in outdoor activity that gets hearts pumping and bodies moving.



Whether you prefer a 3-mile/2 hour hike through the hoodoos, or a 1-hour leisurely stroll on a ranger-led bird watch, Bryce Canyon is great place to make fun fitness a family tradition.

Although few families can exercise regularly in a national park, most can enjoy similar outdoor adventures in their home community.

For more information, visit: <http://www.letsmove.gov>

"National Parks are amazing places where exercise is disguised as adventure, and we sneak in some learning, too!"

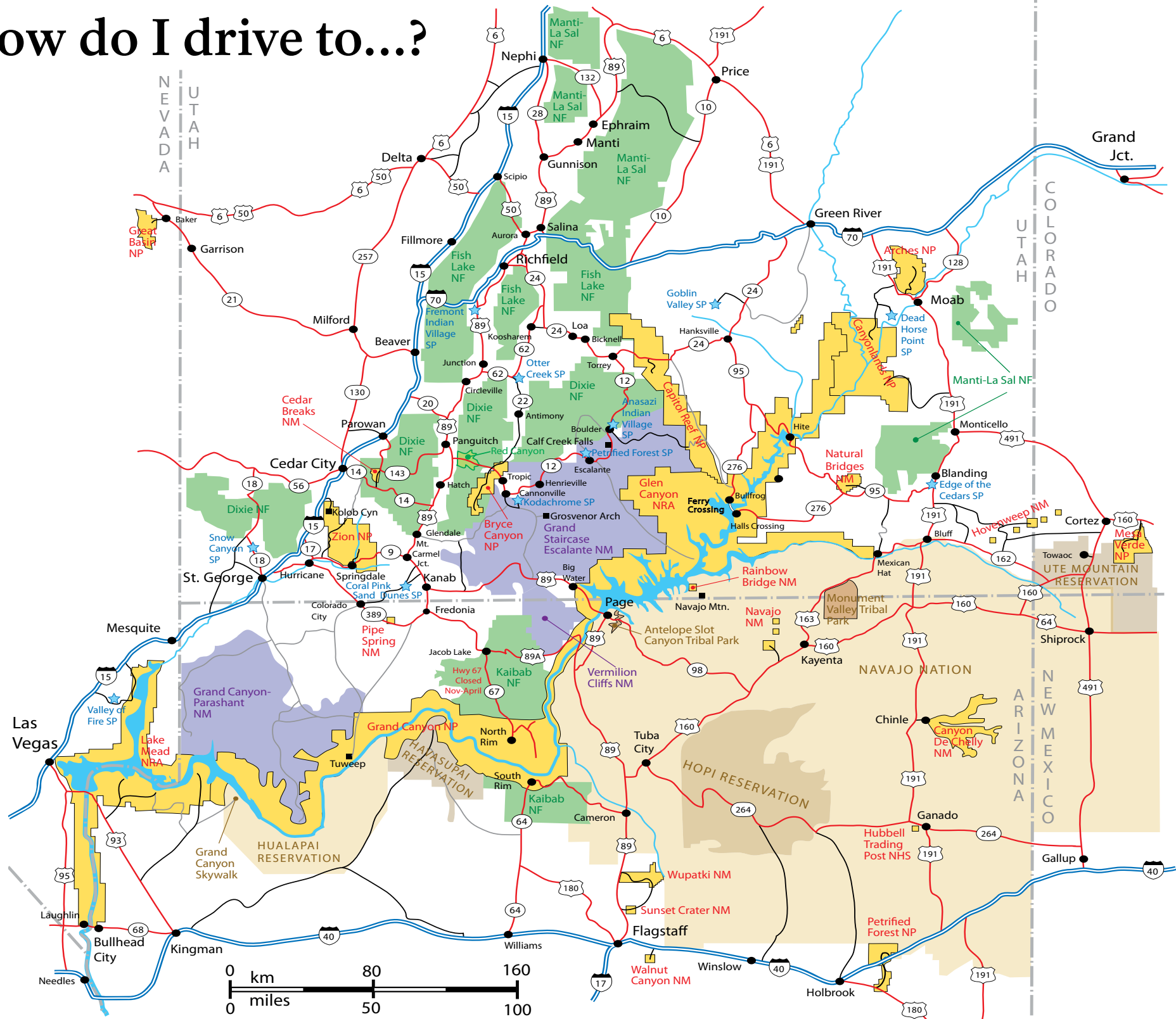
~National Park Service
Director, Jon Jarvis

Look at the calories burned in the various exercises/activities (all at moderate intensity) below. Activities in **red text** can be performed at Bryce Canyon National Park.

Data Calculated at www.healthstatus.com/cgi-bin/calc/calculator.cgi				
ACTIVITY & CALORIES (kcal) BURNED PER HOUR	75 lb 33 kilo person	125 lb 55 kilo person	175 lb 78 kilo person	225 lb 100 kilo person
Sleeping	32	52	74	94
Watching TV	34	56	79	101
Reading / Attending Ranger Program	36	60	84	108
Computer Gaming / Auto Touring	72	120	168	216
Bird Watching / Stargazing	95	158	221	284
Horseback or ATV / Snowmobile Riding	117	195	273	351
Bicycling / Ice Skating	171	285	399	513
Hiking (w/pack) / Golfing (carrying clubs)	207	345	483	621
Swimming / Weight Lifting	207	345	483	621
Backpacking / High Impact Aerobics	238	398	556	756
Downhill Skiing / Mountain Biking	288	495	672	864
Full Court Basketball / Trail Running	374	622	872	1120
Snowshoeing / X-Country Skiing	287	645	903	1161

For the greatest overall health benefits, experts recommend 60 minutes of active and vigorous play each day for kids, and 30 minutes of moderate-intensity physical activity each day for adults.

How do I drive to...?



Driving Distances

	Miles	Hours		Miles	Hours		Miles	Hours		Miles	Hours
Arches NP (via US 89 & I-70)	270	6	Cortez, CO (thru Page)	357	8	Kanab	80	1½	Panguitch	25	½
Arches NP (via UT-12)	249	6¾	Death Valley NP (Furnace Cr.)	392	7	Kodachrome Basin SP	25	¾	Salt Lake City	260	4½
Boulder (Anasazi SP)	80	2	Escalante	50	1½	Lake Powell (Page, AZ)	150	3	Tropic	11	½
Capitol Reef NP (via UT-12)	120	3	Grand Canyon NP (North Rim)	160	3½	Las Vegas	270	4½	Yosemite NP (via Tioga Road)	610	11½
Cedar Breaks NM	56	1½	Grand Canyon NP (South Rim)	300	5½	Monument Valley (via Page)	275	6½	Yosemite NP	738	13
Cedar City	80	1¾	Great Basin NP	199	5½	Monument Valley (via Cap Reef)	313	7½	Zion NP (East Entrance)	78	1½



Capitol Reef National Park
121 miles northeast via Utah 12 & 24

The Waterpocket Fold, a giant wrinkle in Earth's crust, features a jumble of colorful cliffs, massive domes, soaring spires, twisting canyons, and graceful arches. Ancient rock art and historic orchards tell of the park's cultural history. Orchards are open June - October for "self-serve picking" of cherries, pears, apricots, peaches, and apples. Visitor Center: 435-425-3791
www.nps.gov/care
12 The Hoodoo



Cedar Breaks National Monument
83 miles west via Utah 12, US 89 & Utah 14

At 10,350 feet (3155 m), Cedar Breaks is the highest Park Service unit and features a spectacular amphitheater of walls, fins, spires, and columns eroded out of colorful Claron limestone. Forests of pine, spruce, fir, and aspen are separated by alpine meadows ablaze with brilliant summer wildflowers. Temperatures are usually cool. Headquarters: 435-586-9451
www.nps.gov/cebr



Grand Staircase-Escalante Nat'l Monument
South and east via Utah 12 & US 89

This 1.9 million acre area features diverse and ruggedly beautiful landscapes. Utah 12 and US 89 skirt the fringes of the monument and offer numerous scenic pull-outs. All of the roads in the monument's interior are unpaved, and many require 4-wheel drive. Escalante Visitor Center: 435-826-5499 Cannonville Visitor Center: 435-679-8981 Kanab Headquarters: 435-644-4600
www.ut.blm.gov/monument



Red Canyon / National Scenic Byway 12
124-mile route between US 89 & Utah 24

National Scenic Byway 12 stretches 124 miles from Red Canyon to Capitol Reef National Park and provides breathtaking views across the Grand Staircase and into the Escalante Canyons. The Federal Highway Administration designated this route an "All-American Road," making it a "destination unto itself." Ask for a Byway 12 Route Guide at any visitor center along the way.